

# Developments In Business Simulation & Experiential Exercises, Volume 17, 1990

## THE EFFECT OF EXPERIENTIAL ACCOUNTING WORK EXPERIENCE ON STUDENT PERFORMANCE IN INTERMEDIATE ACCOUNTING COURSES

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### ABSTRACT

The ability to develop criteria to assess a student's likelihood of success in the accounting curriculum is important. Most accounting departments are faced with increasing enrollments and a shortage of terminally qualified faculty. In an effort to address the ensuing resource dilemma accounting programs have recognized the need to establish selective admission and retention policies.

Experiential learning has long been recognized as an effective approach to aid in the transmission and application of knowledge. Experiential learning methods are defined to include work experience, internships, and cooperative programs. If the experiential learning methodology enhances the performance of students, then accounting related work experience, internships, and Cooperative programs will help contribute to the success of the students. Accordingly, the effect of a student's work experience on the probability of success in the study of accounting is an important issue. The purpose of this study is to evaluate work experience as a quantitative predictor of the likelihood of a student's success in Intermediate Accounting. To the extent the study results yield statistically valid quantitative evidence, which prove an ability to discriminate between potentially successful and unsuccessful students, a more efficient utilization of resources allocated to accounting curriculum can occur.

### INTRODUCTION

Accounting education research is a growing body of literature, which is becoming increasingly important. Within the paradigm a wide range of topics have been addressed. One subset within this arena is prediction research. Several prediction research studies have focused on student achievement. These studies have endeavored to shed light on relevant and reliable indicators, which provide ex ante signals of an individual's likelihood of success or failure. Success or failure has typically been measured in terms of an exam grade, course grade, or as a grade point average. A goal in these studies has been the analysis of success criteria for undergraduate accounting students.

The ability to develop criteria to assess a student's likelihood of success in the accounting curriculum is important. Most accounting departments are faced with increasing enrollments and a shortage of terminally qualified faculty. In an effort to address the ensuing resource dilemma accounting programs have recognized the need to establish selective admission and retention policies. In the final report of the Board on Standards for Programs and Schools of Professional Accounting the first standard of admission and retention provided:

Students selected for admission to a professional program shall show a high probability of success in the study of accounting. [AICPA, 1977, p. 6]

Several studies have endeavored to develop models to identify criteria, which effectively predict whether or not a student will succeed in undergraduate accounting courses and programs. Variables investigated as predictors have been both academic and non-academic. Results have indicated that academic performance can be predicted with some effectiveness. These studies will be discussed in the next section of this paper.

Experiential learning has long been recognized as an effective approach to aid in the transmission and application of knowledge. A study conducted by Lau and Jelinek [1984] found it to be superior to content-learning approaches. The general experiential learning model has been illustrated by Kolb, Rubin and McIntyre [1971]. The model describes how an individual learns from experience. Experiential learning methods are defined to include work experience, internships, and cooperative programs. If the experiential learning methodology enhances the performance of students, then accounting related work experience, internships, and cooperative programs will help contribute to the success of the students. Accordingly, the effect of a student's work experience on the probability of success in the study of accounting is an important issue. Yet, there is a lack of research, which has explicitly examined the effect of a student's accounting work experience on classroom performance.

The purpose of this study is to evaluate work experience as a quantitative predictor of the likelihood of a student's success in Intermediate Accounting. To the extent the study results yield statistically valid quantitative evidence, which prove an ability to discriminate between potentially successful and unsuccessful students, a more efficient utilization of resources allocated to accounting curriculum can occur. The results of the study may provide information, which indicates the need to emphasize, perhaps require some form of experiential learning as a vehicle to enhance the performance of accounting students. Conversely, results from this study may suggest work experience is not a significant factor in enhancing a student's performance. This would call question to time and money resources already being utilized for internships and cooperative programs.

### PRIOR STUDIES

Previous studies have examined the strength of various factors as predictors of success in a particular accounting course or accounting curriculum. Eskew and Faley [1988] built upon prior studies to model some determinants of student performance in financial accounting courses. Factors utilized in the model

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included: SAT score, high school grades, college grades, college credit hours in business and general education, and high school accounting courses. The effect of previous accounting education on financial accounting course performance had previously been studied [Mitchell, 1988; Schroeder, 1985; Bergin, 1983; Baldwin and Howe, 1982]. Research findings were mixed in these studies. Multiple regression results in the Eskew and Faley study revealed that all model variables other than previous college credit hours contributed significantly to an explanation of student performance. Student performance was measured by total points earned in the course. SAT score made the largest marginal explanatory contribution. This is somewhat inconsistent with other studies as grade point average is typically the strongest explanatory variable.

Several studies have focused on developing models to identify admission criteria, which effectively predict whether or not a student will succeed in undergraduate accounting programs. These studies used varying forms of discriminant analysis and a variety of explanatory variables to classify the performance of accounting students [Ingram and Peterson, 1987; Clark and Sweeney, 1985; Dockweiler and Willis, 1984; Eckel and Johnson, 1983; Delaney, et. al, 1979]. These variables included grade-point average, grades in specific lower division courses, ACT/SAT scores, and scores on similar standardized tests. Several of these factors appeared to be associated with the success or failure of students. In general, the most important of these was a measure of prior grade-point average.

Similar studies have been conducted in non-accounting educational research. Prediction of college success has been modeled using academic variables such as high school grade-point average, grades in prior college courses, and entrance exam scores [Neely, 1977; Schroeder and Sledge, 1966]. Non-academic variables investigated have included characteristics such as sex, attendance at public or private high schools and other forms of biographic data [Khan, 1973]. Grade-point average generally has been found to be the most important predictor.

The goal of accounting education research is to address questions of particular interest to accountants and fundamental questions of interest to all involved in higher education. Most accounting education research is based on inductive theories which start with empirical observations. These provide the basis for the descriptive studies. The results of the descriptive studies provide a framework on which to construct a general predictive model. The predictive model can then be utilized in a variety of ways including to forecast future events or validate descriptive models

### STATEMENT OF PURPOSE

The present study seeks to extend the scope of previous descriptive studies in accounting education research. As discussed above, previous research has endeavored to explain differences in students' performance in college accounting courses and curriculum. This research project similarly studies the empirical relationship between classroom performance and several independent variables. The contribution to the body of accounting education research by this study is threefold.

First, to the extent that this study replicates prior research in

the analysis of student performance, it enriches the available evidence on the road to research conclusions. This is important in descriptive and explanatory studies. Typically, normative causal chains do not exist. Additionally, absent a laboratory setting, it is not possible to have full control over extraneous non-experimental factors. Therefore, results may provide evidence on pseudo rather than real causality. In these situations it is important that research be reproduced by other observers, under similar or slightly different settings, using different subjects [Abdelkhalik and Ajinkya, 1979]. The design of this study allows replication of prior research. As with previous studies, the relationship of student performance, measured by total points earned, with grade-point average and entrance examination scores will be analyzed. The extension of and improvement upon prior studies are detailed in the next two paragraphs.

Second, the range of explanatory variables that are examined as differentiating factors of student performance has been broadened. Data gathered allows the variables of age, accounting work experience, and student job demands while enrolled in an accounting course to be included in the analysis. The accounting work experience issue was discussed in the first section of this proposal. It is possibly the most important of the new variables from an efficient use of resource standpoint.

The final contribution made by this research project is possibly of much greater significance. It is a result of the research design. To conduct this study, information was gathered on students at Northern Arizona University and Weber State College. Therefore, data collected is multi-institutional, which means cross-sectional analysis will be possible. A recently published review of accounting education research noted that not a single accounting education research article employed use of multi-institutional data [Herring, et. al., 1989]. The authors stated that such data is necessary for a thorough testing of theories related to virtually all aspects of the educational process [ibid., pg. 54]. The multi-institutional nature of this study greatly enhances external validity. This is particularly true in light of the diverse nature of the two schools. Northern Arizona University has predominately traditional students with a majority of the student body living in campus housing. Weber State is a commuter campus. The student body is older and composed of more nontraditional students. Inconsistent results between the schools in this study could undermine the ability to generalize research findings in single institution studies.

### METHODOLOGY

#### Data Collection

The experimental subjects were students enrolled in a first at Northern Arizona University and Weber State College. All intermediate accounting course during the 1988-89 academic year class sections used the same intermediate accounting textbook [Chasteen, Flaherty and O'Connor, 1987]. Student grades, expressed in percentage and letter grade terms and total points earned, were obtained from the instructors at the end of each term. Profile information on each student was collected by means of a questionnaire. Students were asked to provide information about present work demands. They also were asked the extent, timing, and duration of accounting work experience [see Appendix] Other demographic information including grade-point

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average and entrance exam scores were gathered from the respective institutions. The data set was screened in an effort to eliminate identifiable sources of variation not believed to be associated with the variables of interest. Accordingly, students repeating the intermediate accounting course were dropped from the study. This is because of the a priori expectation that inferior students tend to repeat courses. Including these students in the study might bias the results. Additionally, any student who dropped the course or submitted incomplete questionnaires were eliminated from the study. There are 115 students who are considered valid subjects. They will constitute the data set to be used for statistical testing.

## Hypotheses

Prior studies have examined the strength of various factors as predictors of success in a particular accounting course or accounting curriculum. This study ascertains to measure the relationship between several independent variables, and performance in intermediate accounting as measured by total points earned. Data gathered for this study allows analysis of the relationship between performance and previously tested factors including grade-point average and entrance exam scores. Design of this study also facilitates examination of the relationship between classroom performance and age, accounting work experience, and student job demands while enrolled in the course. This leads to the following testable hypotheses (presented in the null form):

- Ho<sub>1</sub>: Students with prior accounting related work experience will not earn a significantly different amount of total points in intermediate accounting than those students without such experience,
- Ho<sub>2</sub>: Students with job demands while enrolled in intermediate accounting will not earn a significantly different amount of total points than students not working.
- Ho<sub>3</sub>: There is no relationship between a student's age and total points earned in the intermediate accounting course.
- Ho<sub>4</sub>: There is no relationship between a student's cumulative CPA and total points earned in intermediate accounting.
- Ho<sub>5</sub>: There is no relationship between a student's entrance exam score and total points earned in intermediate accounting.

The analysis can be further refined. Information is available with regard to type and duration of accounting experience. Job demands can be blocked into part-time and full-time work. Grade-point average can be determined for general education, advanced standing, or principles of accounting courses.

## Statistical Tests and Model

The statistical analysis is being conducted presently (August, 1989). It should be completed in September and will be provided to the Proceeding Editor and paper discussant if this paper is accepted for presentation.

The study utilizes multiple regression analysis. The

hypothesis will be tested within the context of the model specified below:

$$PRE = B_0 + B_2GPA_i + B_2ACT_1 + B_3Age_i + B_4AWE_i +$$

$B_5SJD_i$  where

PRE = a measure of performance in the course equal to total points earned;

CPA = cumulative grade point average;

ACT = a measure of academic aptitude based on entrance exam score;

Age = age of student;

AWE = accounting related work experience;

SJD = student job demands while enrolled in the accounting course.

The major weakness of this method is the possible multicollinearity of the explanatory variables. It will be necessary to attempt to evaluate the effects of intercorrelation on the multiple regression results. Additionally, the validity of other assumptions underlying the regression model will be performed.

## SUMMARY

This study is designed primarily to evaluate the effect of accounting work experience on performance in intermediate accounting courses. The study also will offer an empirical analysis of the relationship between classroom performance and several other variables in addition to work experience. Upon completion of the statistical analysis the summary will be expanded to discuss the results and state a conclusion.

### APPENDIX

NAME \_\_\_\_\_ AGE \_\_\_\_\_

1) Currently working? Yes  No

2) If yes to question #1,

a) Part time  b) Full time

Accounting related? Yes  No

3) Prior work experience:

a) None \_\_\_\_\_  
 < 1 yr \_\_\_\_\_  
 1-2 yrs \_\_\_\_\_  
 2-3 yrs \_\_\_\_\_  
 3-4 yrs \_\_\_\_\_  
 4-5 yrs \_\_\_\_\_  
 > 5 yrs \_\_\_\_\_

b) Was any prior experience accounting related?  
 Yes  No

c) If so, time spent at accounting related jobs: \_\_\_\_\_

If you have accounting work experience, briefly describe your job duties:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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